CLAIMS

What is claimed is:

1. A method comprising:

selectively aligning at least two image based rendering (IBR) image data along a specific direction; and

selectively rebinning the aligned IBR image data to form a multi-perspective panorama.

2. The method as recited in Claim 1, wherein the IBR image data includes concentric mosaic (COM) image data.

3. The method as recited in Claim 2, wherein the specific direction is substantially a horizontal direction with respect to a captured scene.

4. The method as recited in Claim 1, wherein selectively aligning the at least two image based rendering (IBR) image data further includes pair-wise aligning of concentric mosaic (COM) image data.

5. The method as recited in Claim 1, wherein selectively rebinning the aligned IBR image data to form the multi-perspective panorama further includes:

subdividing each of the IBR image data into a plurality of portions; and

combining a specific portion selected from each IBR image data to form a portion of the multi-perspective panorama.

6. The method as recited in Claim 5, wherein subdividing each of the IBR image data into the plurality of portions further includes determining at least one displacement vector associated with the at least two IBR image data and subdividing at least one of the IBR image data based on the magnitude of the displacement vector.

7. The method as recited in Claim 6, wherein the displacement vector is a motion vector.

8. The method as recited in Claim 6, wherein determining at least one displacement vector further includes setting the displacement vector for each of the at least two IBR image data to be of equal magnitude so as to support a simple rebinning process.

9. The method as recited in Claim 6, wherein determining at least one displacement vector further includes setting the displacement vector for each of the at least two IBR image data to be of different magnitude while supporting a smart rebinning process.

10. The method as recited in Claim 1, further comprising:

generating a set of multi-perspective panoramas to provide a dense representation of an IBR captured environment.

11. The method as recited in Claim 10, further comprising:

encoding at least a portion of the multi-perspective panoramas using a 3D wavelet transform.

12. A computer-readable medium having instructions for performing the steps of:

selectively aligning at least two image based rendering (IBR) image data along a specific direction; and

selectively rebinning the aligned IBR image data to form a multi-perspective panorama.

13. The computer-readable medium as recited in Claim 12, wherein the IBR image data includes concentric mosaic (COM) image data.

14. The computer-readable medium as recited in Claim 13, wherein the specific direction is substantially a horizontal direction with respect to a captured scene.

15. The computer-readable medium as recited in Claim 12, wherein selectively aligning the at least two image based rendering (IBR) image data further includes pair-wise aligning of concentric mosaic (COM) image data.

16. The computer-readable medium as recited in Claim 12, wherein selectively rebinning the aligned IBR image data to form the multi-perspective panorama further includes:

subdividing each of the IBR image data into a plurality of portions; and

combining a specific portion selected from each IBR image data to form a portion of the multi-perspective panorama.

17. The computer-readable medium as recited in Claim 16, wherein subdividing each of the IBR image data into the plurality of portions further includes determining at least one displacement vector associated with the at least two IBR image data and subdividing at least one of the IBR image data based on the magnitude of the displacement vector.

18. The computer-readable medium as recited in Claim 17, wherein the displacement vector is a motion vector.

19. The computer-readable medium as recited in Claim 17, wherein determining at least one displacement vector further includes setting the displacement vector for each of the at least two IBR image data to be of equal magnitude so as to support a simple rebinning process.

20. The computer-readable medium as recited in Claim 17, wherein determining at least one displacement vector further includes setting the displacement vector for each of the at least two IBR image data to be of different magnitude while supporting a smart rebinning process.

21. The computer-readable medium as recited in Claim 12, further comprising instructions for:

generating a set of multi-perspective panoramas to provide a dense representation of an IBR captured environment.

22. The computer-readable medium as recited in Claim 21, further comprising instructions for:

encoding at least a portion of the multi-perspective panoramas using a 3D wavelet transform.

23. An apparatus comprising logic configured to selectively align at least two image based rendering (IBR) image data along a specific direction, and selectively rebin the aligned IBR image data to form a multi-perspective panorama.

24. The apparatus as recited in Claim 23, wherein the IBR image data includes concentric mosaic (COM) image data.

25. The apparatus as recited in Claim 24, wherein the specific direction is substantially a horizontal direction with respect to a captured scene.

26. The apparatus as recited in Claim 23, wherein the logic is further configured to pair-wise align of concentric mosaic (COM) image data.

27. The apparatus as recited in Claim 23, wherein the logic is further configured to subdivide each of the IBR image data into a plurality of portions, and combine a specific portion selected from each IBR image data to form a portion of the multi-perspective panorama.

28. The apparatus as recited in Claim 27, wherein the logic is further configured to determine at least one displacement vector associated with the at least two IBR image data and subdivide at least one of the IBR image data based on the magnitude of the displacement vector.

29. The apparatus as recited in Claim 28, wherein the displacement vector is a motion vector.

30. The apparatus as recited in Claim 28, wherein the logic is further configured to set the displacement vector for each of the at least two IBR image data to be of equal magnitude so as to support a simple rebinning process.

31. The apparatus as recited in Claim 28, wherein the logic is further configured to set the displacement vector for each of the at least two IBR image data to be of different magnitude while supporting a smart rebinning process.

32. The apparatus as recited in Claim 23, wherein the logic is further configured to generate a set of multi-perspective panoramas to provide a dense representation of an IBR captured environment.

33. The apparatus as recited in Claim 32, wherein the logic is further configured to encode at least a portion of the multi-perspective panoramas using a 3D wavelet transform.

34. A method comprising:

providing a plurality of concentric mosaic image data;

de-correlating the plurality of concentric mosaic image data along a cross-shot direction based on at least one calculated displacement vector to form a skewed data set; and

rebinning portions of the skewed data set to form a multi-perspective panorama.

35. A method comprising:

providing concentric mosaic image data;

dividing the concentric mosaic image data into stripes according to at least one displacement vector associated with a horizontal filtering; and

rebinning portions of striped concentric mosaic data to form a panorama.

36. A method comprising:

providing a plurality of concentric mosaic image data;

dividing each of the plurality of concentric mosaic image data into slits;

rebinning all of the slits into a two-dimensional array; and

compressing the two-dimensional array.